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REMARKS

In this Response, Applicants amend claims 1, 3, and 5, add new claims 6-28, and traverse the Examiner's rejections. Support for the amendments to the claims can be found throughout the originally filed disclosure. The claim amendments should not be construed as acquiescence to any of the rejections. Rather, the claim amendments are being made solely to expedite prosecution of the instant application. Furthermore, silence with regard to any of the Examiner's rejections should not be construed as acquiescence to any of the rejections. Specifically, silence with regard to any of the rejections of the dependent claims that depend from an independent claim considered by Applicants to be allowable based on the Remarks provided herein should not be construed as acquiescence to any of the rejections. Rather, silence should be construed as recognition by the Applicants that the previously lodged rejections are moot based on the Amendment and/or Remarks submitted by the Applicants relative to the independent claim from which the dependent claims depend. Applicants reserve the option to further prosecute the same or similar claims in the instant or a subsequent application. Upon entry of the Amendment, claims 1-28 are pending in the instant application. °

Substitute Specification

As previously provided herein, Applicants submit a substitute specification and a corresponding Submission of Substitute Specification to correct minor clerical errors.

The substitute specification does not provide any new matter.

Office Action ¶¶ 1 and 2

Applicants acknowledge with appreciation the Examiner's consideration of the present application and the reference cited in the Information Disclosure Statement.

Office Action ¶ 3

As provided previously herein, Applicants submit corrected drawings for Figs. 1-7 and a corresponding Correction of the Drawings to the Draftsman to address the objections to the drawings made by the Draftsman. This amendment does not provide any new matter.

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Applicants submit that the corrected drawings comply with 37 C.F.R. § 1.84.

Office Action ¶ 4

Applicants amend claim 1 to correct the clerical error noted by the Examiner. This amendment does not provide any new matter.

Office Action ¶ 5-8

The Examiner rejected claims 1 and 5 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 5,758,359 to Saxon (hereinafter referred to as "Saxon") and further in view of U.S. Patent No. 6,038,665 to Bolt et al. (hereinafter referred to as "Bolt").

The Examiner also rejected claims 2-4 under 35 U.S.C. § 103(a) as being unpatentable over Saxon and further in view of U.S. Patent No. 6,023,709 to Anglin et al. (hereinafter referred to as "Anglin").

Applicants' independent claim 1 recites a process for storing data including detecting a condition representative of each storage element having reached capacity and, *"based on the condition, directing the processor to compare the time signals for each data storage element to store data on the storage element having the earliest recorded data."*

The Examiner states that Saxon teaches "directing the processor to compare the time signals for each data storage element to store data on the storage elements having the earliest recorded data (column 5, lines 39-45)." Applicants respectfully disagree with this characterization. Saxon describes a system for performing retroactive backups. As described in Saxon col. 7, ll. 1-27 and as shown in Saxon Figs. 3a and 3b, Saxon performs a scheduled backup by first identifying save sets generated after a previous back up and then reading a maximum size threshold associated with the scheduled backup. As described in Saxon col. 7, ll. 18-27, "the maximum size threshold indicates a maximum size (i.e. quantity of data) that ... can be backed up in the allotted backup time." As described in Saxon col. 7, ll. 48-66, if the save set size exceeds the maximum size threshold, Saxon terminates the scheduled backup because, in such an instance, the backup likely cannot be performed during the allotted time. Saxon's maximum size threshold does not represent a storage capacity of the storage medium. Rather, Saxon's maximum size threshold represents the maximum amount of data that can be backed up

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in the allotted time given processor restraints. Accordingly, Saxon does not detect a condition representative of the storage medium having reached capacity. Since Saxon does not detect the condition, Saxon cannot direct a processor to compare time signals based on detecting the condition. Accordingly, Saxon does not teach the feature of Applicants' independent claim 1 that recites detecting a condition representative of each storage element having reached capacity and, "*based on the condition, directing the processor to compare the time signals for each data storage element having the earliest recorded data.*"

Bolt describes a system for backing up files over a wide area network. As indicated in Bolt col. 13, ll. 24-41 and as shown in Bolt Fig. 9, Bolt uses a limited amount of available storage capacity for back up storage. Upon reaching the back up storage limit, Bolt suspends the back up process until additional storage space becomes available by re-transmitting the blocks that are to be backed up and deleting the previous back up copies. Bolt does not make additional storage space available by comparing time signals for data storage elements. Rather, Bolt deletes previous back up copies regardless of their time of recording. Bolt also does not store data on the data storage element having the earliest recorded data upon reaching the storage limit. Accordingly, Bolt does not teach the feature of Applicants' independent claim 1 that recites "*directing the processor to compare the time signals for each data storage element to store data on the storage element having the earliest recorded data.*"

Accordingly, neither Saxon nor Bolt, whether considered separately or in combination, teaches the feature of Applicants' independent claim 1 directed to "*directing the processor to compare the time signals for each data storage element to store data on the storage element having the earliest recorded data.*" Applicants therefore consider independent claim 1 to be allowable.

Since claims 2-5 depend from claim 1, Applicants also consider claims 2-5 to be allowable as depending on an allowable base claim, thereby mooting the Examiner's rejections of claims 2-5. Applicants' failure to respond to the Examiner's rejections of dependent claims 2-5 should not be construed as acquiescence to any of the rejections. Rather, Applicants' failure to respond to the Examiner's rejections should be construed as recognition by the Applicants that the previously lodged rejections are moot based on the Amendment and/or Remarks submitted by the Applicants relative to claim 1.

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Based on the Remarks previously provided herein, Applicants traverse the Examiner's rejection of claims 1-5 under 35 U.S.C. § 103(a).

New Claims

Applicants add new claims 6-28 for storing data disclosed in the present application. New claims 6, 12, 17, 19, 22, and 27 are independent, and new claims 7-11, 13-16, 18, 20-21, 23-26, and 28 depend from claims 6, 12, 17, 19, 22, and 27, respectively. Support for new claims 6-28 can be found throughout the originally filed disclosure.

New Claims 6-11 and 19-21

New claims 6-11 and 19-21 are directed to methods and processor programs for storing data including detecting a first condition representing a storage capacity for at least one of at least two data storage elements and, "*based on the detected condition, storing the data on the data storage element associated with an earliest stored data.*"

As previously provided herein, the cited prior art does not teach the feature of "*based on the condition, storing the data on the data storage element having the earliest stored data.*" Accordingly, Applicants consider new claims 6-11 and 19-21 to be allowable.

New Claims 12-18 and 22-28

New claims 12-18 and 22-28 are directed to methods and processor programs for storing data including detecting a condition representing a storage capacity for at least one of at least two data storage elements and, "*based on the detected condition, determining whether at least one of the at least two data storage elements includes available capacity.*"

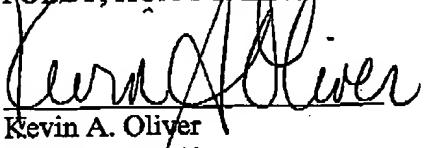
Based on the Remarks previously provided herein, Applicants consider new claims 12-18 and 22-28 to be allowable over the cited prior art.

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CONCLUSION

Based on the foregoing Amendment and Remarks, Applicants respectfully submit that this application is in condition for allowance. Accordingly, Applicants request allowance. Applicants invite the Examiner to contact the Applicants' undersigned Attorney if any issues are deemed to remain prior to allowance.

Respectfully submitted,
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MARKED-UP VERSION OF CLAIMS

Claims 1, 3, and 5 were amended as follows.

Claims 6-28 were added as follows.

1. (Once Amended) A process for storing data, comprising
 - providing a back up server having storage for a plurality of data files,
 - providing a long term memory device having a plurality of data storage elements and a processor for coordinating the operation of the plural data storage elements,
 - directing the processor to store data on the storage elements and for recording a time signal representative of the time of recording data,
 - [identifying] detecting a condition representative of each storage element having reached capacity, and
 - based on the condition, directing the [process] processor to compare the time signals for each data storage element to store data on the storage element having the earliest recorded data.
3. (Once Amended) A process according to claim 2, wherein the tape library includes a robotic controller for moving tapes in [an] and out of a tape drive system.
5. (Once Amended) A process according to claim 1, wherein directing the processor to store data on the storage elements includes directing the processor to store data on each storage element [until] until each storage element reaches capacity.
6. (New) A method of storing data comprising:
 - detecting a condition representing a storage capacity of at least one of at least two data storage elements; and
 - based on the detected condition, storing the data on the data storage element associated with an earliest time of storage.
7. (New) The method of claim 6, wherein storing the data on the data storage element associated with an earliest time of storage comprises:
 - associating at least one time of storage with the at least two data storage elements.
8. (New) The method of claim 6, wherein storing the data on the data storage element associated with an earliest time of storage comprises:
 - comparing at least one time of storage associated with the at least two data storage elements; and
 - identifying the data storage element associated with the earliest time of storage.
9. (New) The method of claim 6, further comprising:
 - providing a storage system including the at least two data storage elements and a processor for controlling data storage on the at least two data storage elements.
10. (New) The method of claim 9, wherein the storage system includes at least one of a tape library system, a hard disk system, a read/write CD-ROM system, and a RAID system.

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11. (New) The method of claim 10, wherein the storage system includes a tape library system having a library of tapes, a tape drive, and a robotic controller for moving tapes between the library and the tape drive.

12. (New) A method of storing data comprising:

detecting a condition representing a storage capacity of at least one of at least two data storage elements;

based on the detected condition, determining whether at least one of the at least two data storage elements includes available capacity; and,

based on whether at least one of the at least two data storage elements includes available capacity, storing the data on the data storage element associated with an earliest time of storage.

13. (New) The method of claim 12, wherein storing the data on the data storage element associated with an earliest time of storage comprises:

associating at least one time of storage with the at least two data storage elements.

14. (New) The method of claim 12, wherein storing the data on the data storage element associated with an earliest time of storage comprises:

comparing at least one time of storage associated with the at least two data storage elements; and

identifying the data storage element associated with the earliest time of storage.

15. (New) The method of claim 12, further comprising:

based on whether at least one of the at least two data storage elements includes available capacity, storing the data on the at least one data storage element including available capacity.

16. (New) The method of claim 15, wherein storing the data on the at least one data storage element including available capacity comprises:

storing the data on the at least one data storage element including available capacity until the at least one data storage element reaches capacity.

17. (New) A method of storing data comprising:

detecting a condition representing a storage capacity for at least one of at least two data storage elements;

based on the detected condition, determining whether at least one of the at least two data storage elements includes available capacity; and,

based on whether at least one of the at least two data storage elements includes available capacity, storing the data on the at least one data storage element including available capacity.

18. (New) The method of claim 17, wherein storing the data on the at least one data storage element including available capacity comprises:

storing the data on the at least one data storage element including available capacity until the at least one data storage element reaches capacity.

19. (New) A processor program for storing data, the processor program being tangibly stored on a processor-readable medium and comprising instructions operable to cause a processor to:

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detect a condition representing a storage capacity of at least one of at least two data storage elements; and,

based on the detected condition, store the data on the data storage element associated with an earliest time of storage.

20. (New) The processor program of claim 19, further comprising instructions operable to cause a processor to:

associate at least one time of storage with the at least two data storage elements.

21. (New) The processor program of claim 19, further comprising instructions operable to cause a processor to:

compare at least one time of storage associated with the at least two data storage elements; and,

identify the data storage element associated with the earliest time of storage.

22. (New) A processor program for storing data, the processor program being tangibly stored on a processor-readable medium and comprising instructions operable to cause a processor to:

detect a condition representing a storage capacity of at least one of at least two data storage elements;

based on the detected condition, determine whether at least one of the at least two data storage elements includes available capacity; and,

based on whether at least one of the at least two data storage elements includes available capacity, store the data on the data storage element associated with an earliest time of storage.

23. (New) The processor program of claim 22, wherein the instructions to store the data on the data storage element associated with an earliest time of storage comprise instructions to:

associate at least one time of storage with the at least two data storage elements.

24. (New) The processor program of claim 22, wherein the instructions to store the data on the data storage element associated with an earliest time of storage comprise instructions to:

compare at least one time of storage associated with the at least two data storage elements; and,

identify the data storage element associated with the earliest time of storage.

25. (New) The processor program of claim 22, further comprising instructions operable to cause a processor to:

based on whether at least one of the at least two data storage elements includes available capacity, storing the data on the at least one data storage element including available capacity.

26. (New) The processor program of claim 25, wherein the instructions to store the data on the at least one data storage element including available capacity comprise instructions to:

store the data on the at least one data storage element including available capacity until the at least one data storage element reaches capacity.

27. (New) A processor program for storing data, the processor program being tangibly stored on a processor-readable medium and comprising instructions operable to cause a processor to:

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detect a condition representing a storage capacity for at least one of at least two data storage elements;

based on the detected condition, determine whether at least one of the at least two data storage elements includes available capacity; and,

based on whether at least one of the at least two data storage elements includes available capacity, store the data on the at least one data storage element including available capacity.

28. (New) The processor program of claim 27, wherein the instructions to store the data on the at least one data storage element including available capacity comprise instructions to:

store the data on the at least one data storage element including available capacity until the at least one data storage element reaches capacity.